

CLAIMS

What is claimed is:

1. An insert for a clamping device, the insert comprising
a first end and a second end;
external clamping threads adapted to be rotatably connected to the clamping device to adjust the position of the insert in relation to the clamping device;
a plurality of planar receptors positioned within the insert to define a pass through opening in the insert, wherein each planar receptor is positioned within a separate plane
a first stop connected to the first end and adapted to limit the movement of the insert in relation to the frame; and
a second stop connected to the second end and adapted to limit the movement of the insert in relation to the frame.
2. The clamp of claim 1, wherein the plurality of planar receptors define a square pass through opening in the insert.
3. The clamp of claim 1, wherein the plurality of planar receptors define a triangular pass through opening in the insert.

4. The clamp of claim 1, wherein each stop includes a shoulder extending past the diameter of the external clamping threads such that each shoulder contacts the clamping device.
5. The clamp of claim 1, further including:
a first connection thread attached to the first end; and
the first stop including a main body connected to a shoulder, the main body defining a second connection thread for mounting the shoulder on the first connection thread.
6. The clamp of claim 1, further including
a connection groove positioned on the first end; and
the first stop comprising a snap ring adapted to fit the connection groove.
7. The clamp of claim 1, the first stop comprising a metal washer fixed to the insert.
8. The clamp of claim 1, the second stop comprising a metal washer fixed to the insert.

9. A vise, comprising:

a clamping shaft including at least three extensions positioned around the shaft;

an insert positioned on the clamping shaft defining a pass through opening including extension receptors, the receptors adapted to engage the extensions and substantially center the shaft inside the pass through opening, the insert further defining a first clamping thread, wherein rotation of the clamping shaft in relation to the insert in a first direction engages the first extensions into the receptors to turn the insert, and rotation of the clamping shaft in a second direction disengages the extensions from the receptors such that the clamping shaft may freely slide through the pass through opening;

a bearing jaw;

a body extending from the bearing jaw and defining a second clamping thread adapted to engage the first clamping thread to adjust the position of the insert in relation to the body;

a driving jaw engaging the clamping shaft and adapted to be driven to provide clamping pressure in relation to the bearing jaw; and

stops connected to the insert and adapted to limit the movement of the insert in relation to the base.

10. The vise of claim 9, the first and second clamping threads including multiple rotations to allow for a plurality of adjustment rotations of the insert within the driving jaw.
11. The vise of claim 9, the length of the first clamping thread and the stops adapted to limit the exposure of the first clamping threads.
12. The vise of claim 9, wherein at least one stop comprises:
 - a shoulder connected to an end of the insert and extending past the internal diameter of the clamping thread such that the shoulder contacts the driving jaw.
13. The vise of claim 12, the insert further defining a first connection thread and the at least one stop including a main body connected to the shoulder, the main body defining a second connection thread for mounting the shoulder on the insert.
14. The vise of claim 9, the insert further defining a connection groove, the stop comprising a snap ring adapted to fit the connection groove.
15. The vise of claim 9, the stop comprising a metal washer fixed to the insert.

16. The vise of claim 9, the pass through opening having a square shape and the clamping shaft having a square cross section including four teeth placed at the corners of the square shape.

17. The vise of claim 9, the clamping shaft including a bearing end adapted to move through the pass through opening for removal of the clamping shaft.